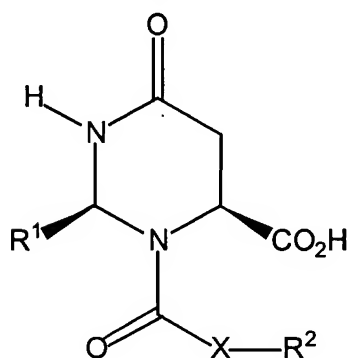
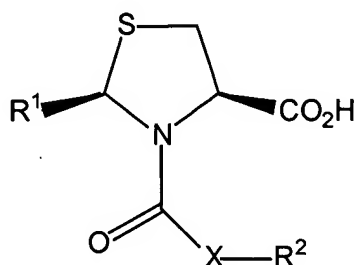


**WHAT IS CLAIMED IS:**

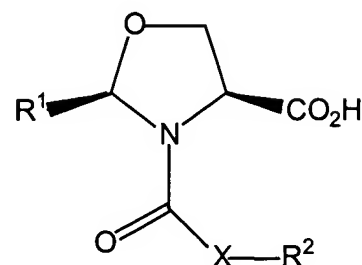
1. A fatty amino acid derivative or carboxylate salt thereof, further defined as an asparagine, cysteine, or serine fatty acid derivative.
2. The fatty amino acid derivative of claim 1, wherein the fatty amino acid derivative or carboxylate salt thereof has a formula of:



Lipoasparagine (ALP)



Lipocysteine (CLP)



or Liposerine (SLP)

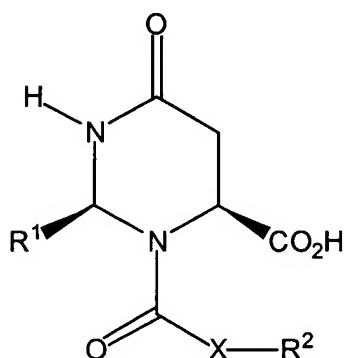
wherein R<sup>1</sup> and R<sup>2</sup> are each, independently, a linear, branched, saturated and/or unsaturated hydrocarbon, a cholesterol moiety, a steroid moiety, an aromatic moiety, a combination thereof, or a derivative thereof; and X is an O group or a CH<sub>2</sub> group.

3. The fatty amino acid derivative of claim 2, wherein R<sup>1</sup> and R<sup>2</sup> are the same.
4. The fatty amino acid derivative of claim 2, wherein R<sup>1</sup> and R<sup>2</sup> are different.
5. The fatty amino acid derivative of claim 2, wherein at least one of R<sup>1</sup> and R<sup>2</sup> is a hydrocarbon of at least 5 carbon units.
6. The fatty amino acid derivative of claim 5, wherein the hydrocarbon is a linear hydrocarbon.

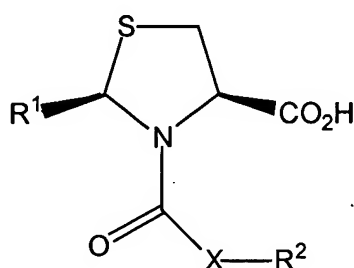
7. The fatty amino acid derivative of claim 5, wherein the hydrocarbon is a saturated hydrocarbon.
8. The fatty amino acid derivative of claim 5, wherein at least one of R<sup>1</sup> and R<sup>2</sup> is a linear saturated hydrocarbon of at least 10 carbon units.
9. The fatty amino acid derivative of claim 8, wherein at least one of R<sup>1</sup> and R<sup>2</sup> is a linear saturated hydrocarbon of at least 15 carbon units.
10. The fatty amino acid derivative of claim 9, wherein at least one of R<sup>1</sup> and R<sup>2</sup> is a linear saturated hydrocarbon of at least 20 carbon units.
11. The fatty amino acid derivative of claim 2, wherein X is an O group.
12. The fatty amino acid derivative of claim 2, wherein X is a CH<sub>2</sub> group.
13. The fatty amino acid derivative of claim 1, further defined as comprised in a liposome.
14. The fatty amino acid derivative of claim 1, further defined as a surfactant.
15. The fatty amino acid derivative of claim 14, further defined as comprised in a detergent.
16. The fatty amino acid derivative of claim 1, further defined as an adjuvant.
17. The fatty amino acid derivative of claim 1, further defined as comprised in a food.
18. A method of synthesizing a fatty amino acid derivative or carboxylate salt thereof comprising:

- a) cyclizing an asparagine, a cysteine or a serine with a  $R^1$ -aldehyde under basic conditions; and
- b) reacting the cyclized asparagine, cysteine, or serine with a  $R^2$ -chloride,  $R^2$ -chloroformate or derivative thereof to produce an asparagine, cysteine, or serine derivative.

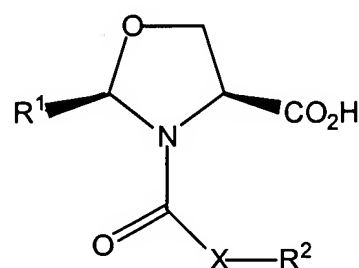
19. The method of claim 18, wherein the fatty amino acid derivative or carboxylate salt thereof has the:



Lipoasparagine (ALP)



Lipocysteine (CLP)



Liposerine (SLP)

wherein  $R^1$  and  $R^2$  are each, independently, a linear, branched, saturated and/or unsaturated hydrocarbon, a cholesterol moiety, a steroid moiety, an aromatic moiety, a combination thereof, or a derivative thereof; and

X is an O group or a  $CH_2$  group.

20. The method of claim 19, wherein  $R^1$  and  $R^2$  are the same.
21. The method of claim 19, wherein  $R^1$  and  $R^2$  are different.
22. The method of claim 19, wherein at least one of  $R^1$  and  $R^2$  is a hydrocarbon of at least 5 carbon units.
23. The method of claim 22, wherein the hydrocarbon is a linear hydrocarbon.

24. The method of claim 22, wherein the hydrocarbon is a saturated hydrocarbon.
25. The method of claim 22, wherein at least one of  $R^1$  and  $R^2$  is a linear saturated hydrocarbon of at least 10 carbon units.
26. The method of claim 25, wherein at least one of  $R^1$  and  $R^2$  is a linear saturated hydrocarbon of at least 15 carbon units.
27. The method of claim 26, wherein at least one of  $R^1$  and  $R^2$  is a linear saturated hydrocarbon of at least 20 carbon units.
28. The method of claim 19, wherein X is an O group.
29. The method of claim 19, wherein X is a  $CH_2$  group.